

REMARKS

This application has been carefully reviewed in light of the Office Action dated September 22, 2009. Claims 1 and 3 to 18 are pending in the application, of which Claims 1, 13 and 14 are in independent form. Reconsideration and further examination are respectfully requested.

Claims 1, 3 to 7 and 9 to 18 were rejected under 35 U.S.C. § 103(a) over U.S. Patent Application Publication No. 2002/0181765 (Mori) in view of U.S. Patent Application Publication No. 2002/0181775 (Matsugu '775) and further in view of EP 1164537 (Matsugu '537). Claim 8 was rejected under 35 U.S.C. § 103(a) over Mori in view of Matsugu '775 further in view of U.S. Patent No. 5,570,434 (Badique) and further in view of Matsugu '537. Reconsideration and withdrawal of the rejections are respectfully requested.

Referring specifically to claim language, amended independent Claim 1 is directed to a pattern identification method of identifying a pattern of input data by hierarchically extracting features of the input data. The method includes using a processor to perform the steps of: a first feature extraction step of extracting a feature of a first layer from the input data; an analysis step of analyzing a distribution of a feature extraction result in the first feature extraction step; a calculation step of calculating a respective likelihood of extracting from the input data a feature of one of a plurality of categories for features of a second layer, each feature of the second layer corresponding to a combination of features of the first layer, on the basis of the distribution analyzed in the analysis step; an activation step of selectively activating at least one extraction module, among a plurality of extraction modules for extracting features of respective categories, whose calculated

likelihood of the category for the feature of the second layer to be extracted from the input data is not less than a predetermined value; a second feature extraction step of extracting a feature of the second layer from the input data by the selectively activated extraction module; and a storing step of storing the extracted feature of the second layer in a memory.

Amended independent Claims 13 and 14 are directed to apparatus and computer medium claims, respectively, generally corresponding with the method of Claim 1.

The applied art, alone or in any permissible combination, is not seen to disclose or suggest all of the features of Claims 1, 13 and 14, and in particular, is not seen to disclose or suggest at least the features of selectively activating at least one extraction module, among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature of a second layer to be extracted from input data is not less than a predetermined value, and extracting a feature of the second layer from the input data by the selectively activated extraction module.

Page 4 of the Office Action concedes that Mori and Matsugu '775 do not disclose an activation step of selectively activating at least one extraction module from among a plurality of extraction modules for extracting features of respective categories. Applicants agree, and in the context of the amended claim language, Applicants respectfully submit that Mori and Matsugu '775 therefore also cannot disclose selectively activating at least one extraction module, among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature of a second layer to be extracted from input data is not less than a predetermined value, and extracting a feature of the second layer from the input data by the selectively

activated extraction module. Nevertheless, the Office Action alleges that Matsugu '537 discloses the foregoing feature. Applicants respectfully disagree.

Matsugu '537 is seen to disclose that feature detection layers and feature integration layers, as shown in Figure 1, form a set of processing channels at a plurality of resolutions or scale levels as a whole. Each processing channel implements processing at one scale level or resolution to detect and recognize low to high-order features by hierarchical parallel processing. (See paragraph [0182] of Matsugu '537). In addition, Matsugu '537 is seen to disclose that a channel activation control circuit or a gating circuit calculates a target channel activation degree or selects a channel from time-shared channel data. Then, the channel activation control circuit or the gating circuit sets a neuron threshold value for the subsequent layers on the basis of the channel activation degree for each time window for each channel or scale level, or conducts control of signal levels by amplifying or attenuating them, or allows signals of only a selected channel to pass. (See paragraph [0267] of Matsugu '537). Thus, Matsugu '537 is seen to disclose that a channel activation control circuit or a gating circuit selects a processing channel from time-shared channel data, in which the processing channel implements processing at one scale level or resolution. However, Matsugu '537 is not seen to disclose or suggest selectively activating at least one extraction module, among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature of a second layer to be extracted from input data is not less than a predetermined value, and extracting a feature of the second layer from the input data by the selectively activated extraction module.

The remaining applied reference of Badique is not seen to remedy the above-mentioned deficiencies of Mori, Matsugu '775 and Matsugu '537. In this regard, Badique is merely seen to disclose that face recognition is performed using centers of gravity. The centers of gravity located in the face area are combined to form triplets, and it is determined whether these triplets can correspond to the eyes and the mouth of a human face on the basis of their geometrical position. (See column 9, lines 63 to 66 of Badique). However, Badique is not seen to add anything that, when combined with Mori, Matsugu '775 and/or Matsugu '537, assuming, *arguendo*, that such could be combined, would have resulted in at the least the features of selectively activating at least one extraction module, among a plurality of extraction modules for extracting features of respective categories, whose calculated likelihood of a category for a feature of a second layer to be extracted from input data is not less than a predetermined value, and extracting a feature of the second layer from the input data by the selectively activated extraction module.

Accordingly, independent Claims 1, 13 and 14 are believed to be in condition for allowance, and such action is respectfully requested.

The other claims in the application are each dependent from the independent claims discussed above and are therefore believed to be allowable over the applied art for at least the same reasons. Because each dependent claim is deemed to define an additional aspect of the disclosure, however, the individual consideration of each on its own merits is respectfully requested.

As a formal matter, Applicants request that the Examiner provide an indication in the next communication acknowledging Applicants' claim to priority under

35 U.S.C. § 119 and receipt of the certified copy of the priority document. This is a fourth request.

No other matters being raised, it is believed that the entire application is fully in condition for allowance, and such action is courteously solicited.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

/Edward A. Kmett/

Edward A.Kmett

Attorney for Applicants

Registration No.: 42,746

FITZPATRICK, CELLA, HARPER & SCINTO
1290 Avenue of the Americas
New York, New York 10104-3800
Facsimile: (212) 218-2200

FCBS_WS 4487130v1